

REMARKS

Claims 1-20 are pending.

Claims 1-20 stand rejected.

Claims 1-20 are hereby submitted for review and consideration.

No new matter has been added.

In paragraph 2 of the Office Action, the Examiner has continued the rejection of the claims under 35 U.S.C. § 103 (a) as being obvious over Hasegawa et al. (U.S. Patent No. 6,755,995) in view of Hall (U.S. Patent No. 6,025,422), further in view of Ogawa et al. (U.S. Patent No. 4,417,018).

In response to the previous Amendment, the Examiner has noted Applicant's primary argument is that the prior art does teach that the phosphorus group is chemically bonded to the polymer. However, the Examiner claims that this is not persuasive because "...there is no clear factual evidence on this record that [the] end polymer of the prior art does in fact have phosphorus groups that are not chemically bonded. There is no evidence that mixing does not or would not result in the bonding of two components."

Applicant respectfully disagrees with the Examiner's response to Applicant's arguments and respectfully submits the following remarks.

Independent claim 1 of the present invention, among other elements, includes at least one phosphorous group *such that the phosphorus group is chemically bonded to the polymer*.

In order to support the rejection, the Examiner has noted that Hasegawa and Hall do not teach such an element but, that Ogawa teaches this element and that it would be obvious to combine it with the Hasegawa and Hall references to arrive at the present

invention as claimed.

Applicant has argued in the previous Amendment that Ogawa *does not teach* a phosphorus groups that that are chemically bonded to the polymer (functional groups of the polymer), but rather teaches phosphorus groups that are simply added (non-chemically) into the mixture along with other fillers. Applicants reiterate such an argument.

The Examiner, in order to form the rejection of the claim must cite a reference (or combination thereof) that teaches or suggests all of the elements of the claim. Ogawa makes no such suggestion that the phosphorus is bonded to the polymer. The Examiner appears to argue that Ogawa does not need to show this because by merely stating that phosphorus is *mixed* with the polymer as an additive, that there is no factual evidence that the polymer and phosphorus are not bonded.

Such a line of reasoning is in error. It is commonly known in the field of chemistry, as well as in the subfield of polymer chemistry, that *chemical bonding* between two components *does not occur unless certain specific conditions are met*. These conditions may include temperature, necessary reactant quantities etc... In any event, absent meeting these conditions there is no chemical bonding.

To further support this argument, an Affidavit under 37 CFR 1.132 from the inventor Oliver Pinto is included. Mr. Pinto is a Chemical Engineer and an expert in fire retardant compounds. Mr. Pinto has confirmed the above paragraph noting that special conditions are needed for the formation of covalent (chemical) bonding and that such conditions are not discussed in Ogawa. (See paragraphs 11 and 16) Furthermore, Mr. Pinto is familiar with many prior art fire retardant compositions, including the addition of phosphorus mixture to a polymer as shown in Ogawa. It is known to experts in the field that prior art arrangements, such as that shown in Ogawa does not include phosphorus

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Amendment dated February 7, 2007
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that is chemically bonded to the polymer. (See paragraphs 15)

As such, Applicant respectfully submits that the cited prior art, either alone or in combination with one another do not teach or suggest all of the elements of the present invention as claimed. For example, neither the Hasegawa and Hall references (as noted by the Examiner) nor the Ogawa reference, teaches or suggests a flame retardant compound includes at least one phosphorous group *such that the phosphorus group is chemically bonded to the polymer.*

In view of the forgoing, Applicant respectfully submits that the present invention as claimed is now in condition for allowance, the earliest possible notice of which is earnestly solicited. If the Examiner feels that a telephone interview would advance the prosecution of this application she is invited to contact the undersigned at the number listed below.

Respectfully submitted

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Dated: 2/8/07

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